

# English Practice for

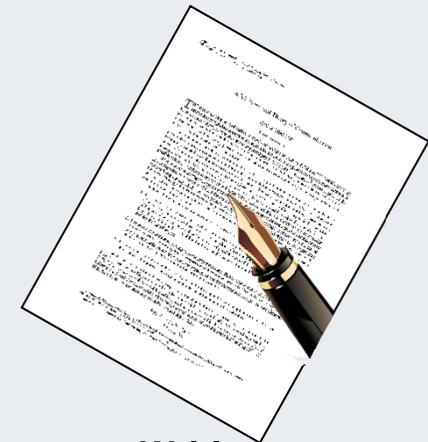
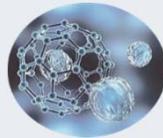


西安交通大学  
XI'AN JIAOTONG UNIVERSITY

# Electronic & Information Engineering



conference

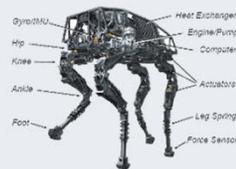


Writing

## How to speak English professionally?



Presentation



Networking

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# ***Introduction to This Course***

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# Outline

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- About me and Our TA
  - Nature of this course
  - Content and target of this course
  - Organization of this course
  - How to learn and practice in this course?
-

# About me **Email: jing.xu@xjtu.edu.cn**

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- Name:
  - Jing Xu
- Our TA:
  - Bilal Hussian
- Affiliation:
  - School of Information and Communications Engineering
- Website:  
<http://gr.xjtu.edu.cn/web/jing.xu>
- Office:  
West Building 1, Room 327
- Wechat Group  
(Please scan to join):



# Outline

---

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-

# Nature of this course

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- Language: It is an English course.
    - Generally, we use English in class.
    - We may speak Chinese sometime. For example:
      - Assignment
      - Explain complicated and confusing cases to you.
  - Content: It is about English frequently used in:
    - Your research;
    - Associated activities.
  - Style: It is a practice-dominating course.
    - For most of time, you practice English in front of your classmates and me, and are scored.
    - You will also practice grading your peer's work.
-

# Outline

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# Content and Target of this course

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## □ Content

- Writing English technical papers.
- Presentation of your work via slides/PPTs.
- Attending international academic conferences.

## □ Target (Get familiar with )

- technical paper writing in English;
- PPT presentation in English;
- Activities in international academic conferences.

## □ Note

- Do not expect you to master everything in only a 16-hour course.
  - Hope you to feel and experience what it looks like in your area when the working Language is English.
-

# Outline

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-

# Organization of this course (English)

English Practice for EIE	Technical Paper Writing	PPT Presentation	International Academic Conferences
Scenario/ Content	<ul style="list-style-type: none"> <li>• Structure of a paper</li> <li>• How to write each section</li> <li>• Abstract &amp; conclusion</li> <li>• Evaluating a paper</li> </ul>	<ul style="list-style-type: none"> <li>• Technical talk</li> <li>• Paper presentation</li> <li>• Report your work</li> <li>• Thesis defense</li> </ul>	<ul style="list-style-type: none"> <li>• Chair a conference</li> <li>• Q &amp; A</li> <li>• Argument</li> <li>• Socialization</li> </ul>
Total hours	6	6	4
Teaching hours	2.5	0.5	1
Practice hours	4	6	
Scores' percentage	40%	60%	

# Organization of this course (Chinese)

英语小班 实践模块	学术论文 写作	PPT展示 与表达	国际会议
对应场景 或内容	论文结构 章节撰写 摘要总结 论文评价	学术报告 论文宣讲 工作汇报 学位答辩	会议主持 观众提问 学术辩论 学术社交
分配课时	6	6	4
授课学时分配	2.5	0.5	1
实战学时分配	4	6	
成绩占比	40%	60%	

# Course Schedule (English)

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Number	1st	2nd	3rd	4th	5 <sup>th</sup>	6th	7th
Content	Technical paper writing	PPT and presentation + International conference	Technical paper writing		PPT and presentation + International conference		
Style	Teaching	Teaching	Practicing		Practicing		
Assignment	Write a short paper 1) Cross-review 2) Rules for writing practice	1) Make a PPT file; 2) Rules for PPT practice	Paper revision based on review comments				
Students need to turn in:		A short paper	Review comments	PPT file	The revised paper		

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# Course Schedule (Chinese)

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课次	第一次	第二次	第三次	第四次	第五次	第六次	第七次
内容	学术论文写作	PPT与报告 国际会议	学术论文写作		PPT与报告 + 国际会议		
方式	授课	授课	实战		实战		
布置作业与任务	1) 写作作业 2) 分组互评及实战方式	1) PPT制作 2) 实战方式	写作修改稿				
完成与提交		写作作业	分组互评结果	PPT文件	写作修改稿		

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# Outline

---

- About me
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  - How to learn and practice in this course?
-

# How to learn and practice

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- Hours and attitude
    - Participate actively in classes
    - Spend more hours off classes
  - Ways to improve quickly
    - Try to think in English rather than translate Chinese to English
  - How to improve more quickly (Best Way)
    - Write and publish papers with your advisor
    - Attend more international conferences
-

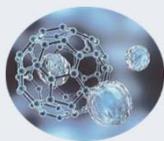
# How to Write Academic Paper in English professionally?



西安交通大学  
XI'AN JIAOTONG UNIVERSITY



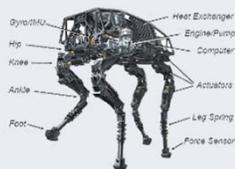
**conference**



**Writing**



**Presentation**



**Networking**

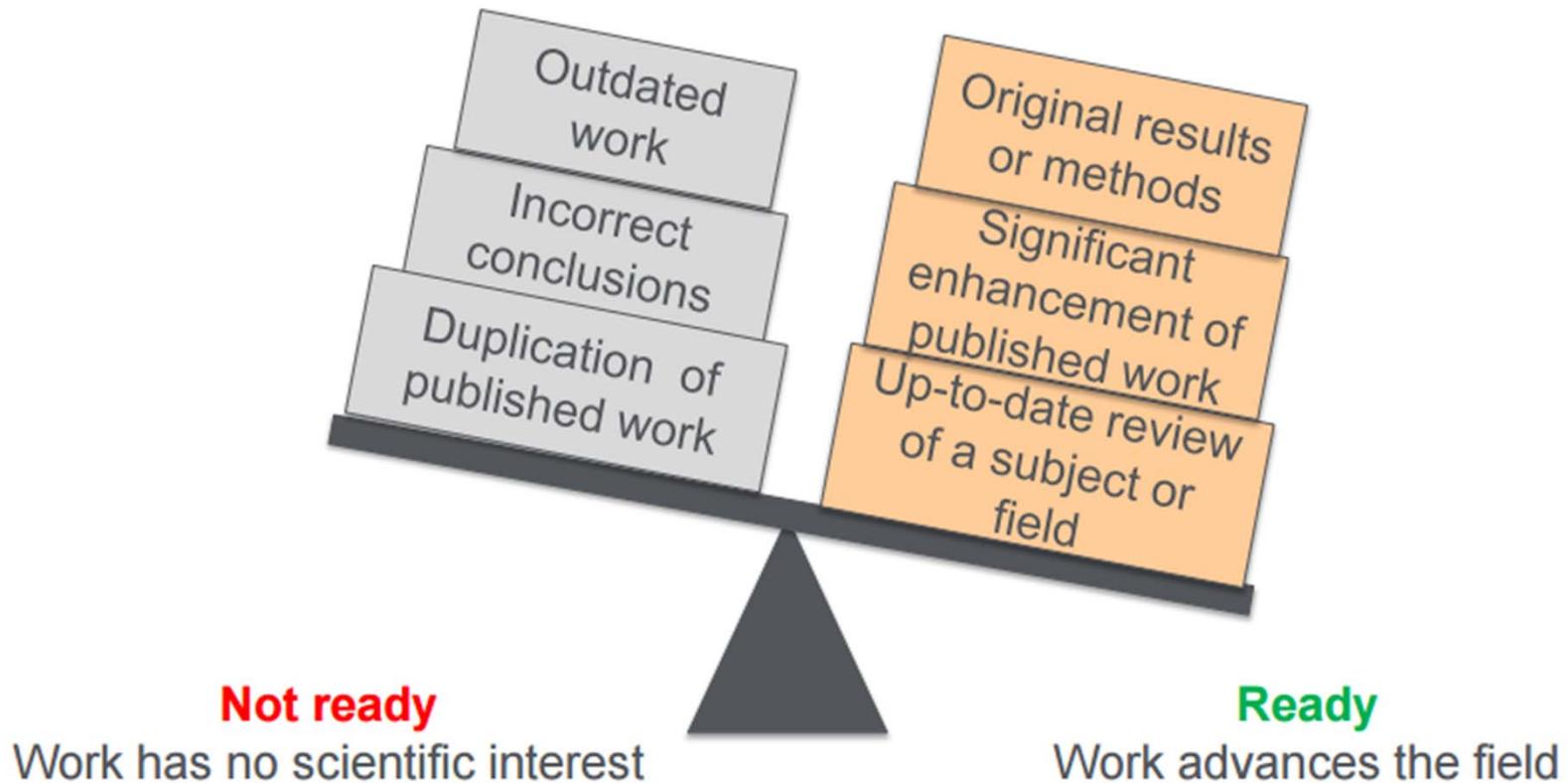
# Assignment (作业)

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- 写作作业：
  - 形式：  
1份不超过2页纸的扩展摘要形式的英文论文
  - 内容：科技话题(可以自己的毕业设计为蓝本)
-

# Am I ready to write a manuscript?

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# What does a Scientific Paper look like?

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## General structure: Full article

- **Title**
- **Abstract**
- **Keywords**
- **Introduction**
- **Materials and Methods (including system model)**
- **Results**
- **Discussion**
- **Conclusions**
- **Acknowledgments**
- **References**

Which order do you generally follow to write your paper?

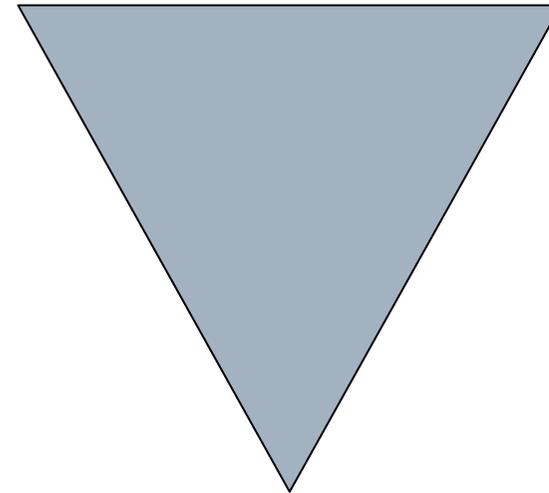
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# General Tips to Write

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## □ Suggested order:

- Methods
- Results
- Introduction
- Discussion and Conclusions
- Abstract
- Title and Keywords



## □ Approximate Length:

- It depends and varies significantly
-

# Getting Start — Write an Outline

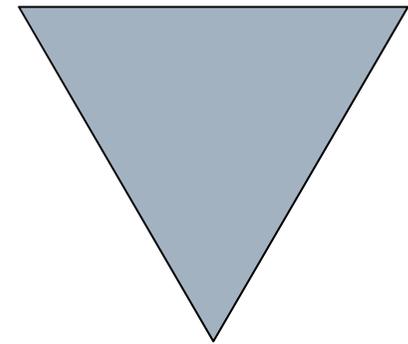
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- ❑ Write ideas as bullet points
  - ❑ Freely write (Express Everything)
  - ❑ Do not focus on language, style and grammar
  - ❑ Cite as you write
-

# The Procedure for Writing your paper

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- ❑ Order your material
- ❑ Describe your **methods** so that other researchers could **repeat** your study
- ❑ Report your **results** **precisely**
- ❑ Write an **effective** **introduction**
- ❑ Construct a **neat** **abstract**
- ❑ Make your **conclusions** **relevant** and **interesting**
- ❑ Write a **concise** and **attractive** **title**



# Those Things for a Good Paper

---

- ❑ A concise and attractive title
  - ❑ A neat abstract
  - ❑ An effective introduction
  - ❑ A detailed Main Body so that other researchers could repeat your study
  - ❑ Precise Results
  - ❑ A relevant and interesting Conclusion
-

# Those Things for a Good Paper

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- A concise and attractive title
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  - Precise Results
  - A relevant and interesting Conclusion
-

# Title (1/3)

---

## □ The Importance of Title

The title of your manuscript is usually the first introduction readers (and reviewers) have to your work. Therefore, you must select a title that attracts their attention, accurately describes the contents of your manuscript, and makes people want to read further.

- Identify the **main issue** of your paper
  - Be **short, accurate, and unambiguous**
  - Begin with the **subject** of the study
  - **Attract** readers
  - (Better) contain no **abbreviations**
-

# Title (2/3)

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- **Attractive titles:** concise and to the point.  
**Rambling titles:** convoluted and will not appeal to your external reviewers. should improve the readability
  - Generally **not a sentence**, do not use a verb
  - Importance of right word order
  - No waste of the words
  - **Best representations of the paper: contributions and unique features**
-

# Write a Title (3/3)

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- ❑ **Writing a good title for your manuscript can be challenging.**
    - First, list the topics covered by the manuscript.
    - Try to put all of the topics together in the title using as few words as possible.
    - A title that is too long will seem clumsy, annoy readers, and probably not meet journal requirements.
-

# Those Things for a Good Paper

---

- ❑ A concise and attractive title
  - ❑ A neat abstract
  - ❑ An effective introduction
  - ❑ A detailed Main Body so that other researchers could repeat your study
  - ❑ Precise Results
  - ❑ A relevant and interesting Conclusion
-

# Abstract

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- Summary in a few hundred words
- Important to attract readers

Many people rely on reading the abstract to decide whether to download the entire article (PDF File) .

- Structure for the abstract
  - State the aims of the study
  - Describe the basic study/design and methods. (Key idea)
  - Offer the main results including specific data and their statistical significance.
  - Give conclusion and interpretation.

# How to construct a concise and well-structured abstract

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## □ Pay attention to the Word limit

1. When writing your abstract, put your **most concise and important sentences** on a page, join them into an abstract and then count the words.

2. Abstracts always benefit from a **serious word trim**. It is essential that you adhere to **the word limit**.

Some journals such as *Science* and *Nature* that are very well regarded in scientific circles, request very short abstracts, which may be as low as **100 words**. However, the usual limit is **250 words**.

# How to write a concise and informative abstract

---

- Begin writing the abstract **after** you have finished writing the main body your paper.
  1. First answer the questions “**What problem are you trying to solve?**” and “**What motivated you to do so?**” by picking out the major objectives/hypotheses and conclusions from your **Introduction** and **Conclusion** sections.
  2. Next, answer the question “**How did you go about achieving your objective?**” by selecting key sentences and phrases from your **Methods** section.

# How to write a concise and informative abstract

---

3. **Reveal your findings** by listing the major results from your **Results** section.

4. Finally, answer the question "**What are the implications of your findings?**"

5. **Arrange** the sentences and phrases selected in steps 2, 3, 4, and 5 into a single paragraph **in the following sequence: Introduction, Methods, Results and Conclusions.**

6. Make sure that this paragraph is self-contained, and does not include the following:

Information not present in the paper, Figures and tables, Abbreviations, Literature review or reference citations

**(4/5)**

---

# How to write a concise and informative abstract

---

7. Now, **link your sentences**.

8. Ensure that the paragraph is written **in the past tense** and check that the information flows well, preferably in the following order: **purpose, basic study design/techniques used, major findings, conclusions, and implications**.

9. Check that the final abstract

- Contains information that is **consistent with** that presented in the paper.
- **Meets the guidelines** of the targeted journal (word limit, type of abstract, etc.)
- Does not contain **typos** as these may lead the reviewers and editors to conclude that

“This paper is bad and should be rejected.”

**(5/5)**

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# Those Things for a Good Paper

---

- ❑ A concise and attractive title
  - ❑ A neat abstract
  - ❑ An effective introduction
  - ❑ A detailed Main Body so that other researchers could repeat your study
  - ❑ Precise Results
  - ❑ A relevant and interesting Conclusion
-

# Introduction

---

- ❑ **One of the most important parts of the paper**
  - Decide to read your paper or not
  - Use the introduction to quickly understand the background, methods, results, contributions, and innovations of your paper.

# main points

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## □ An introduction should include

- **Brief** introduction of the research background
- **Clear** presentation of the research problem
- **General** description of methods and results
- **Explicit** statement of contributions and innovations

## □ An introduction should be brief

- <6-page paper> : No more than 1 page
- <8-12 page paper>: No more than 2 pages

# Introduction: the contents

---

## □ what is the problem

- What is the research problem?
- Why is it important?
- What are the shortcomings of the existing studies?

## □ how we solve it?

- The method and idea of this paper is briefly introduced

## □ what is our contribution?

- Give the results and list the main contributions

**Be clear. Don't let the reader find or guess!**

## □ how the paper is structured?

- Chapter arrangement of the full text

**(3/4)**

---

## Introduction: Neither a historical review, nor a literature review

---

- Do not waste too much space to introduce the development history of this direction.

Related literature can be put in the Related Work Part.

a peer or even an expert in this field thinks: nonsense

- (no separate section on related work) **Give a brief introduction of representative work** in this direction.  
Focus on the advantages and disadvantages of these work.

# Those Things for a Good Paper

---

- ❑ A concise and attractive title
  - ❑ A neat abstract
  - ❑ An effective introduction
  - ❑ A detailed Main Body so that other researchers could repeat your study
  - ❑ Precise Results
  - ❑ A relevant and interesting Conclusion
-

# **Main Body of A Paper**

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**System Model + Problem Formulation + How  
to Solve the Difficult Problem +  
Mathematical Analysis + Simulation Results**

**Materials and Methods (M&M)**

---

# Objectives of the Main Body

---

- ❑ Clearly report experimental procedures
  - ❑ Provide enough detail so experiments can be repeated
  - ❑ Keep transparency of what was done
-

# Language: Effective sentences in Main Body

---

- ❑ Verb tenses
- ❑ Subject and verb must agree in number
  - The cell line was treated with...
  - Cells were treated with...
- ❑ Collective numbers should be treated as singular (unless individual members are specified)
  - “Fifty percent of the control group was treated with RT
  - Fifty percent of the patients were treated with RT

**Express one idea at a time**

---

# Language: Effective sentences in Main Body

---

## ❑ Eliminate wordiness

- The cells were red in color
- The beaker was filled to capacity

## ❑ Redundant words:

combine together, completely  
empty,  
eliminate altogether, fewer in  
number,  
herein we describe, oval in shape,  
very unique

## ❑ Eliminate expendable words

- Needless to say
  - It goes without saying
  - It is important to note that
  - The majority of (most)
  - Had an effect on (affected)
-

# Schematic diagram (1/2)

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- ❑ Schematic diagram for the basic idea of an algorithm

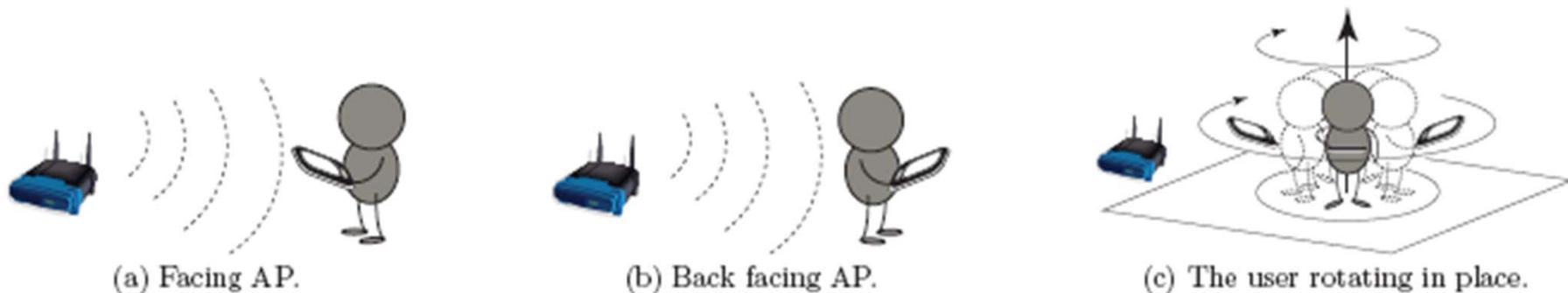


Figure 1: Illustrations of users facing the AP, with back to the AP, and rotating while holding a smartphone.

Zengbin Zhang, etc., “I Am the Antenna: Accurate Outdoor AP Location using Smartphones”, in Proc. MobiCOM 2011.

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# Schematic diagram (2/2)

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- Schematic diagram of a distributed beamforming system

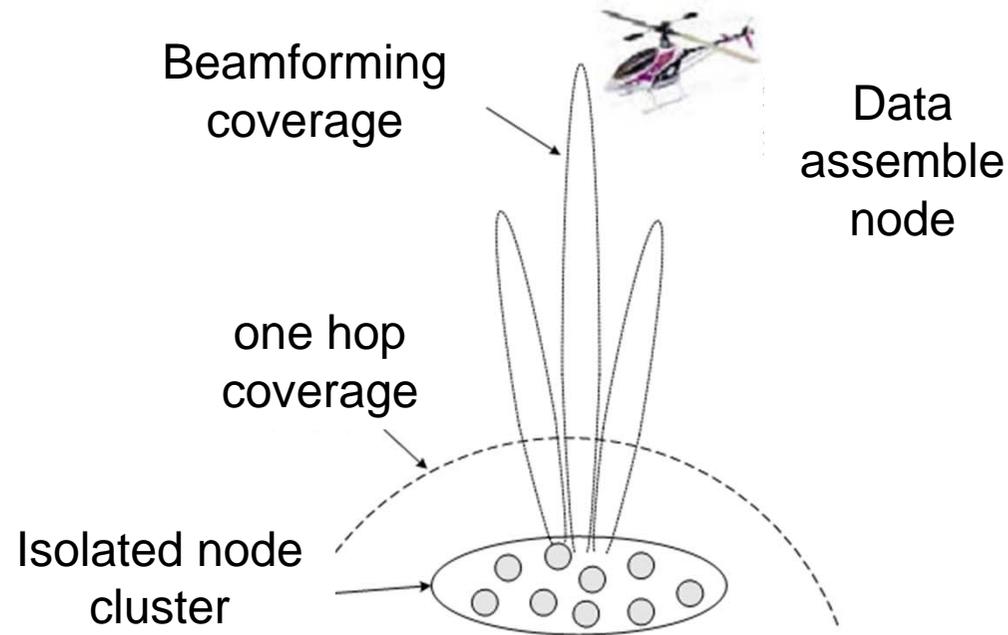


Fig. Isolated node clusters transmit information to data collection points through distributed beamforming

---

# Those Things for a Good Paper

---

- A concise and attractive title
  - A neat abstract
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  - Precise Results
  - A relevant and interesting Conclusion
-

# Overview

---

- We usually prepare a paper in this way:
  - Getting ready and Start
  - Describe Methods
  - **Results (Tables and Figures) and Discussion**
  - Conclusions and Introduction
  - Abstract and Title

**If the results are insufficient, how can you objectively demonstrate the scientific significance of your work?**

**Report the Results Precisely!**

---

# **How to demonstrate the results**

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- ❑ Make the simulation/experiment setups Clear**
  - ❑ Use appropriate figures and tables to show the results**
  - ❑ Make discussions on the results**
-

# Categories of figures

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- ❑ **Pictures : records of the experiments**
  - ❑ **Statistical graphs :**
    - **Point chart** : Quantitative relationship between two variables(trend, continuous change)
    - **Scatter diagram** : The distribution of two variables
    - **Bar chart** : The independent variable is classified data
    - **Histogram** : Statistical distribution of variables
    - **Pie chart** : Proportional relationship
    - **Flowchart and schematic diagram** : explanatory
-

# Pictures : Displaying preliminary products

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- ❑ Rf control board of Sora software radio platform of Microsoft research Asia

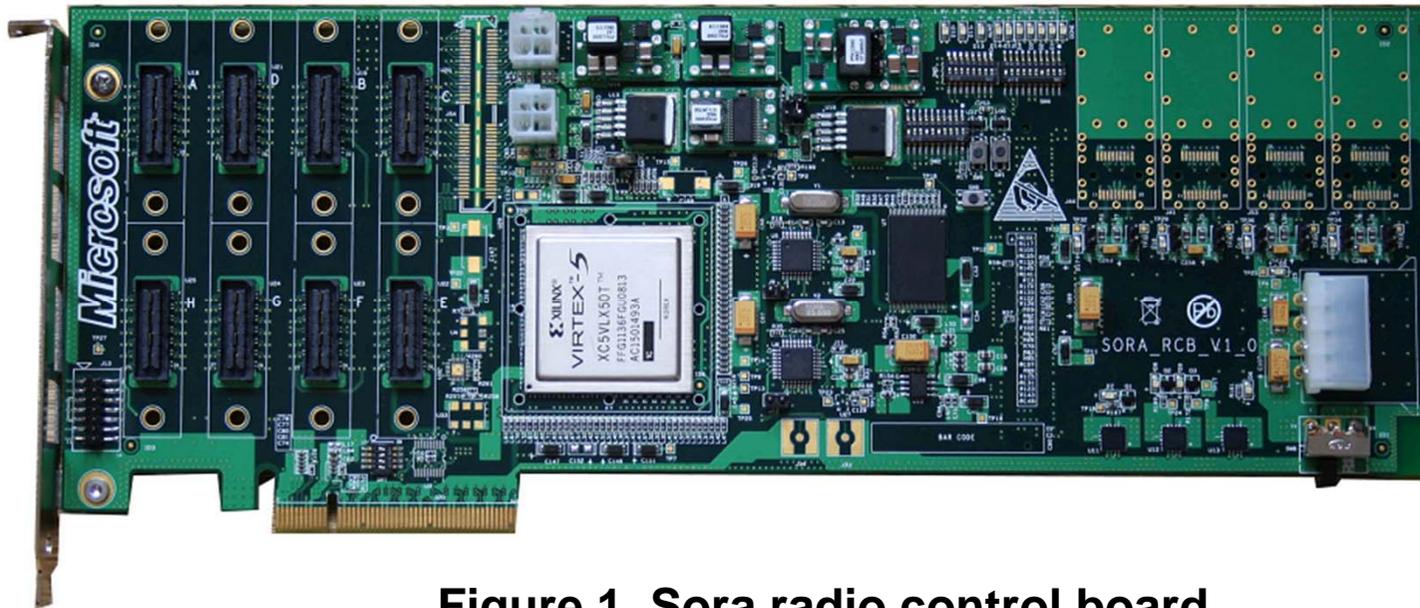


Figure 1. Sora radio control board

Kun Tan, Jiansong Zhang, Ji Fang, and etc. “Sora: high performance software radio using general purpose multi-core processors,” in NSDI 2009. (Best Paper Award)

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# Pictures: Presenting a real scenario

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## Proper labeling

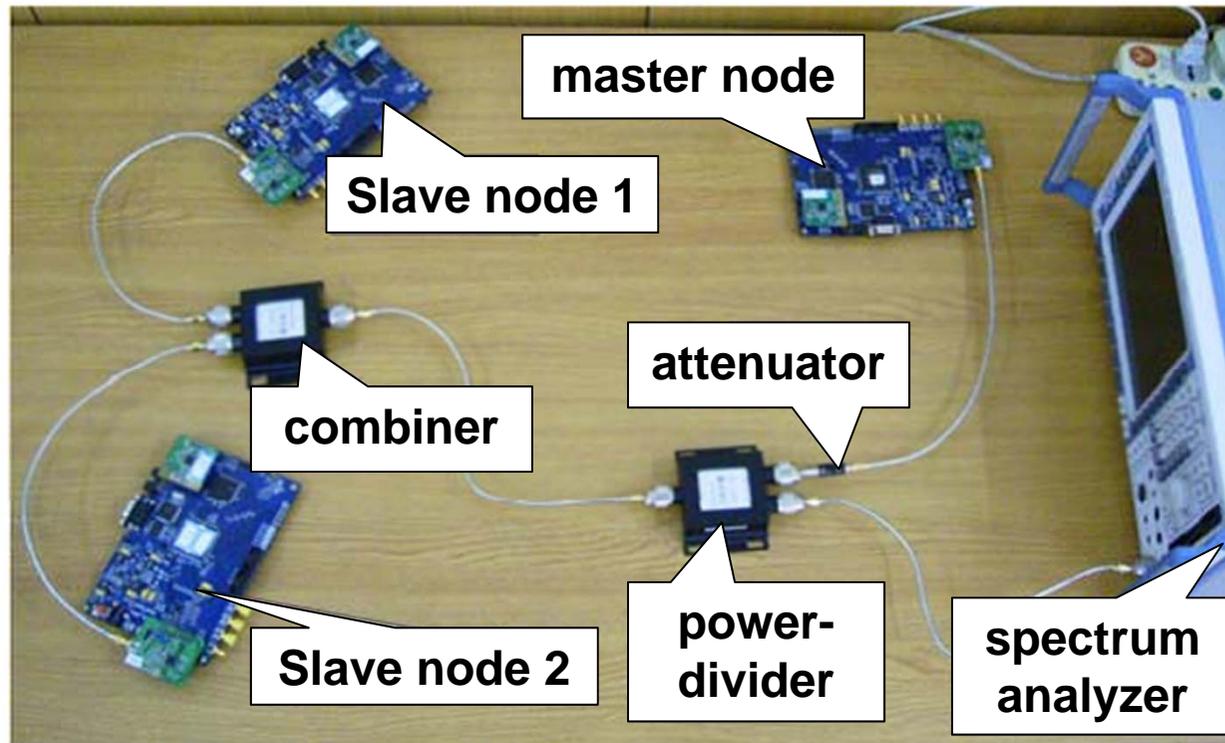


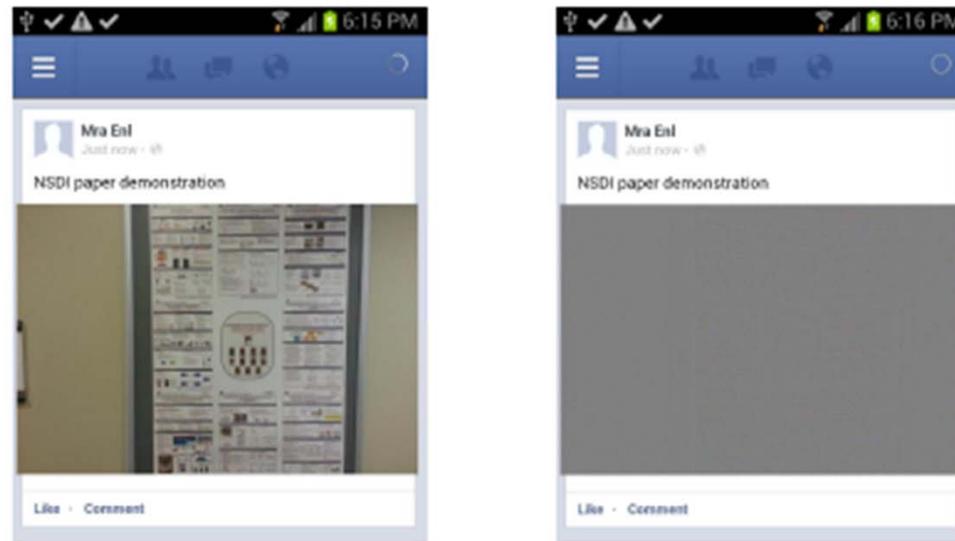
Figure 2. A test object diagram of closed-loop distributed beamforming with two slave nodes to the master node

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# **Pictures: Show the authenticity of the data**

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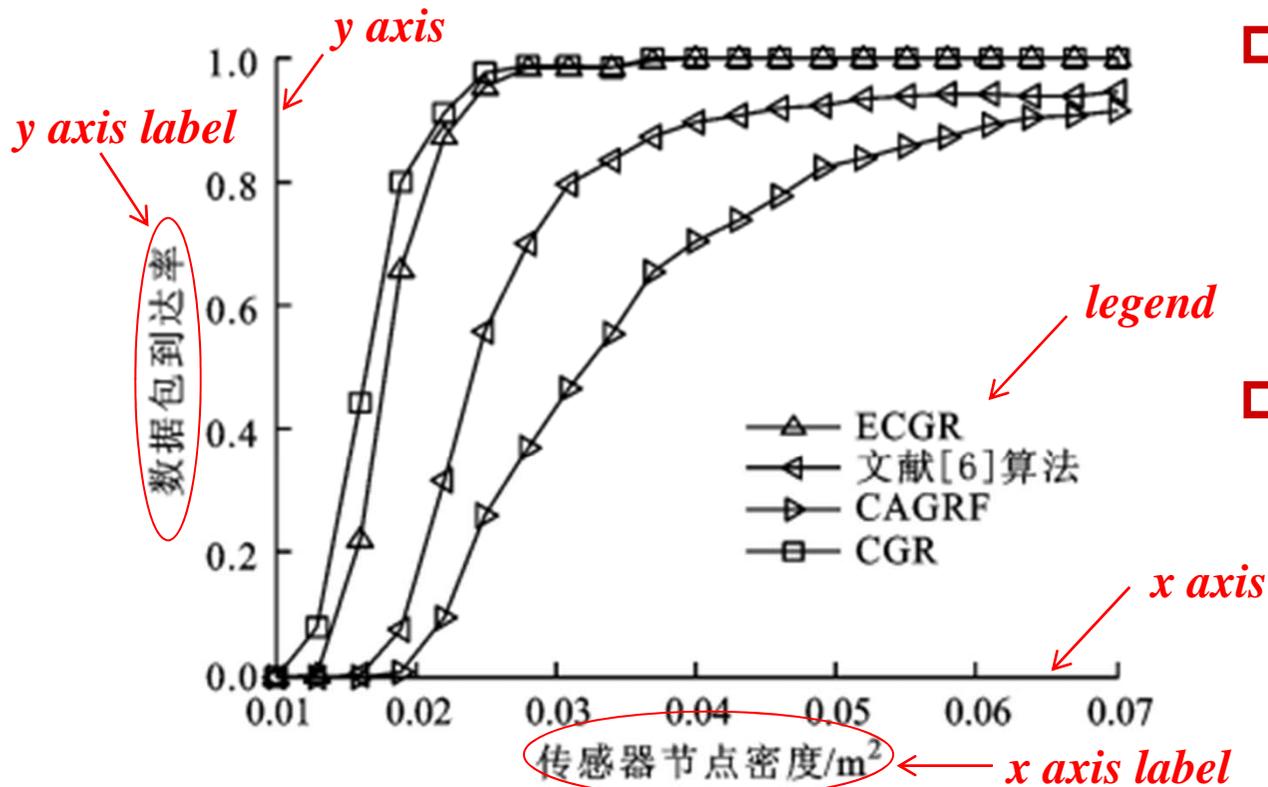
## **□ Toward Privacy-Preserving Photo Sharing**



**Figure 3. Screenshot(Facebook) with/without decryption**

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# Statistical graphs: Point chart

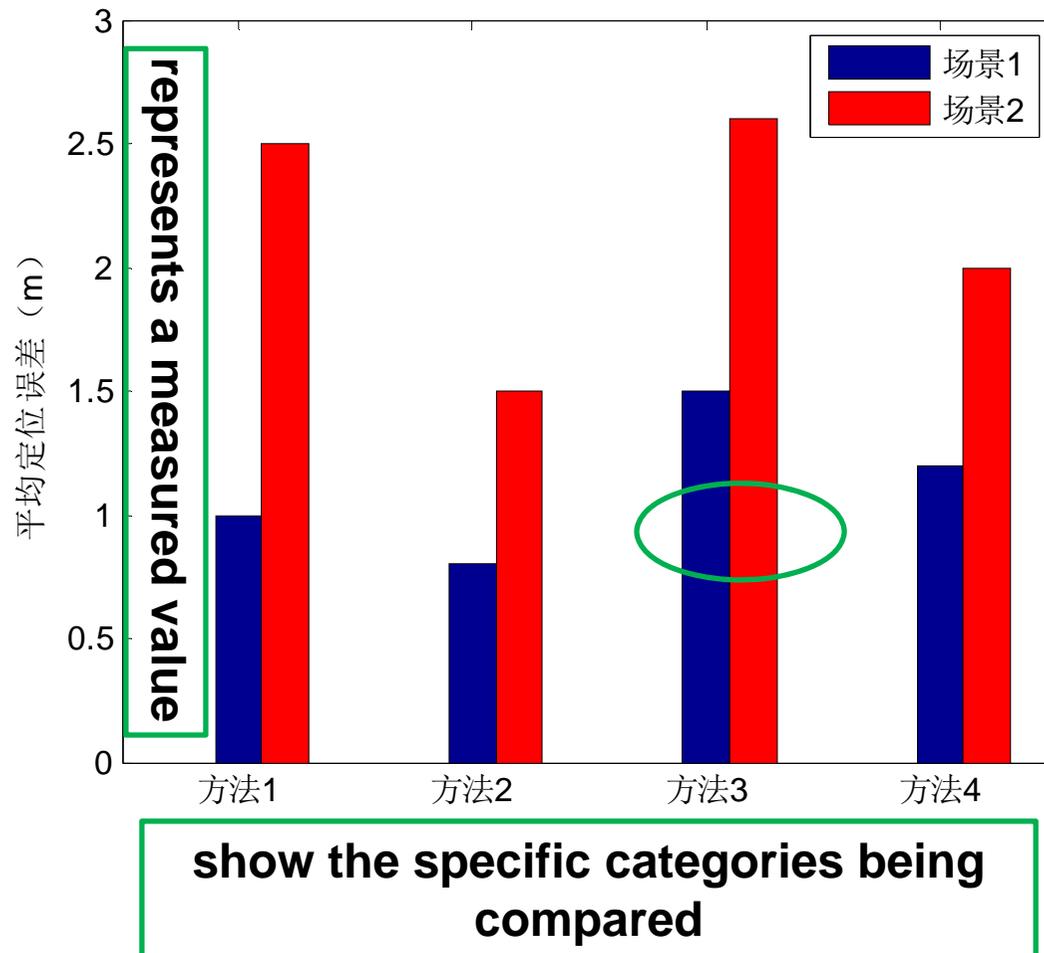


- Show how The dependent variable changes with the variable.
- Different groups of variables are represented by distinguishable illustrations

图 5 PRR 在不同算法中的性能对比曲线

# Statistical graphs: Bar chart

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- show comparisons among discrete categories.
  - Some bar graphs present bars clustered in groups of more than one, showing the values of more than one measured variable.
-

# Statistical graphs: Histogram

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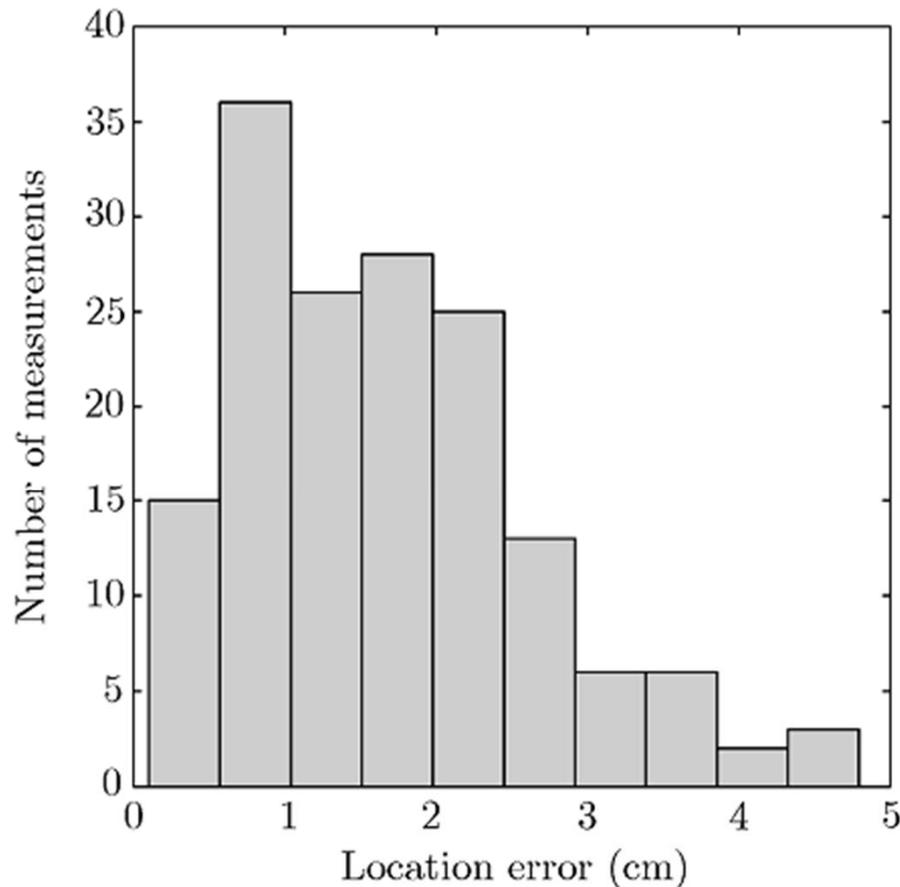


Figure 10 Localization error distribution.

- It is an estimate of the probability distribution of a continuous variable (quantitative variable).
  - It differs from a bar chart, in the sense that a bar graph relates two variables, but a histogram relates only one, and the intervals must be adjacent.
-

# What is a good Figure?

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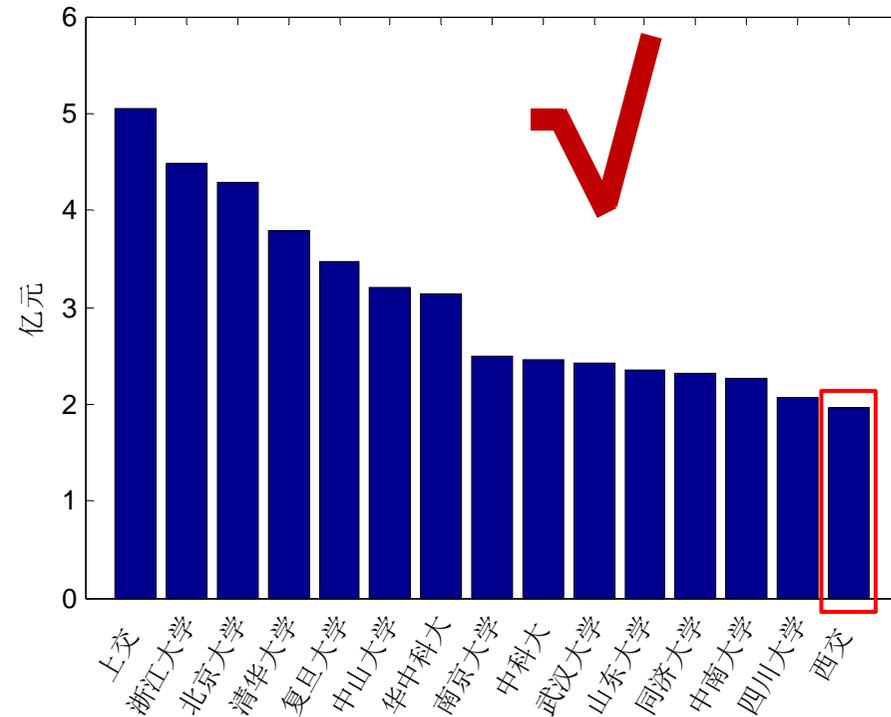
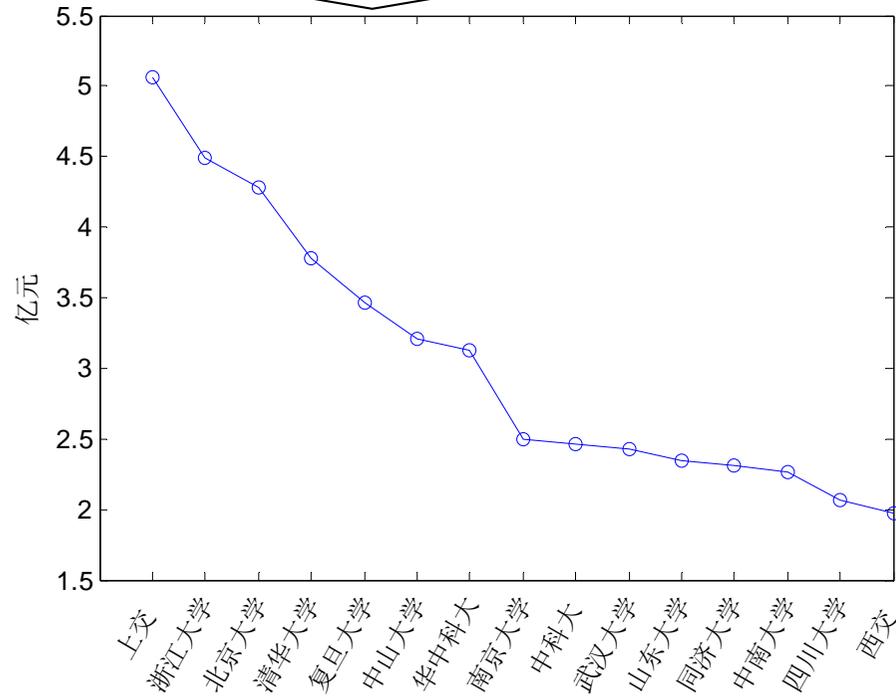
- Choose a right (graph, size, scale, font )

**Figures in the same paper must be of the same size!**

- Self-explanatoriness
  - The curves are consistent with the legend
  - Be concise and clear
  - Use auxiliary markers appropriately
-

# Choose a right graph

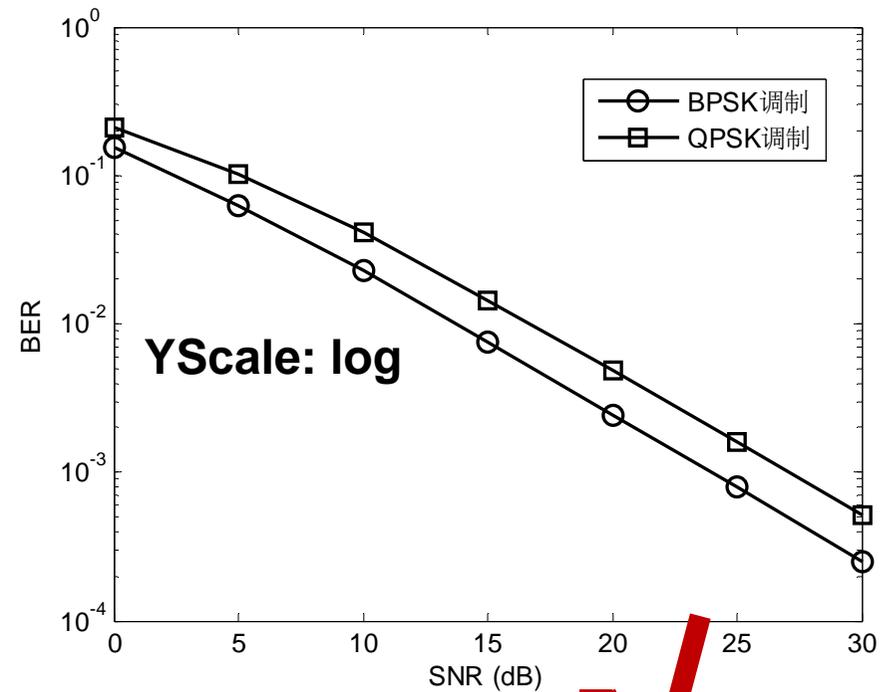
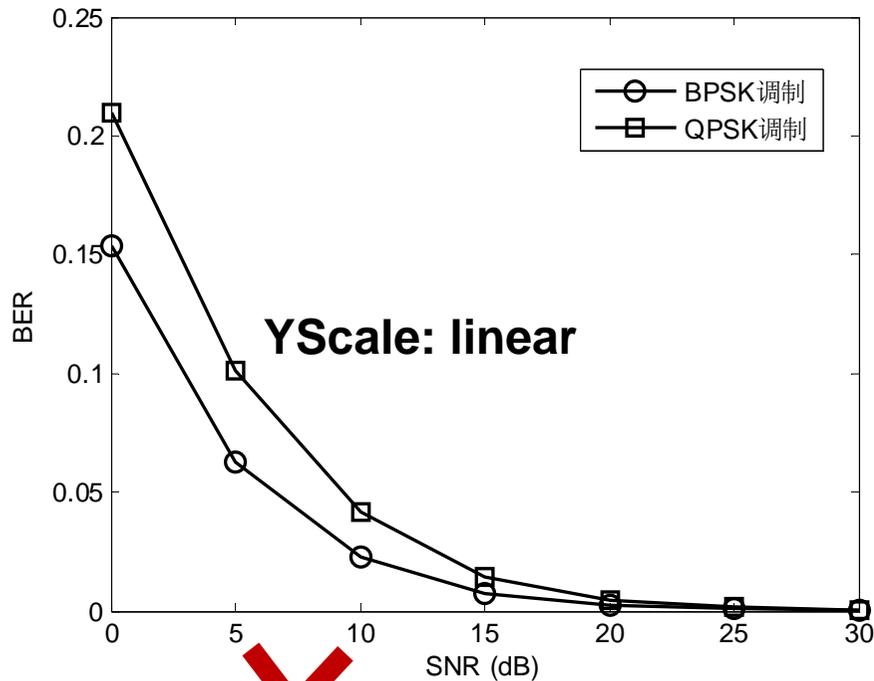
Histogram is suitable when the X-axis is the independent classification variable



National natural science foundation of China in 2013

# Choose a right scale

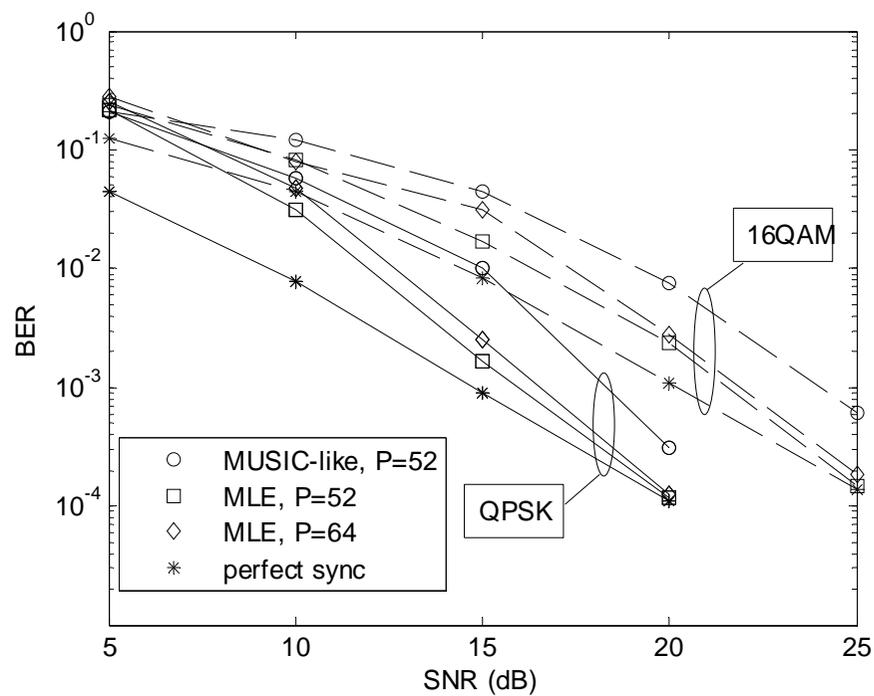
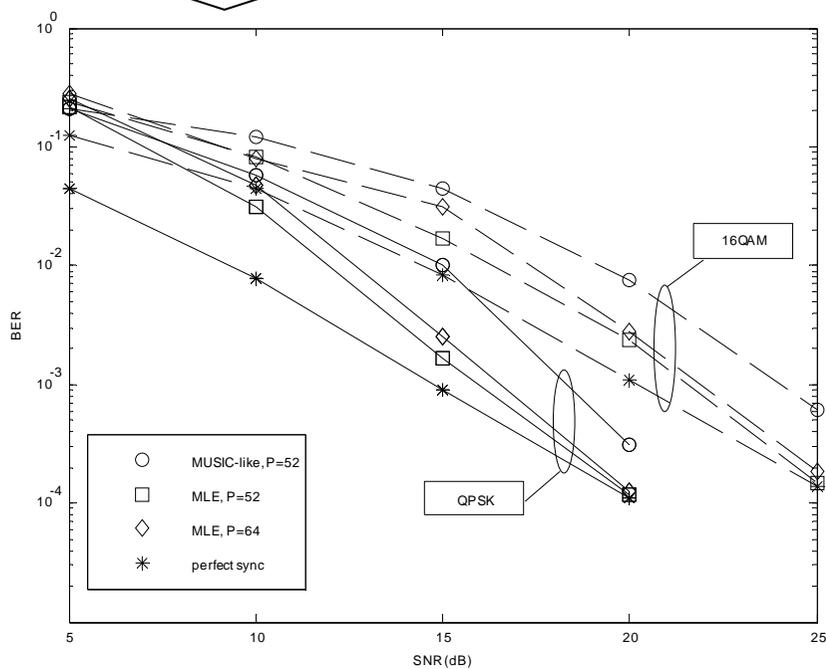
What can you see from this graph when SNR > 20dB ?



BER performance of BPSK and QPSK modulation in Rayleigh fading channel

# Choose a right font

Font too small

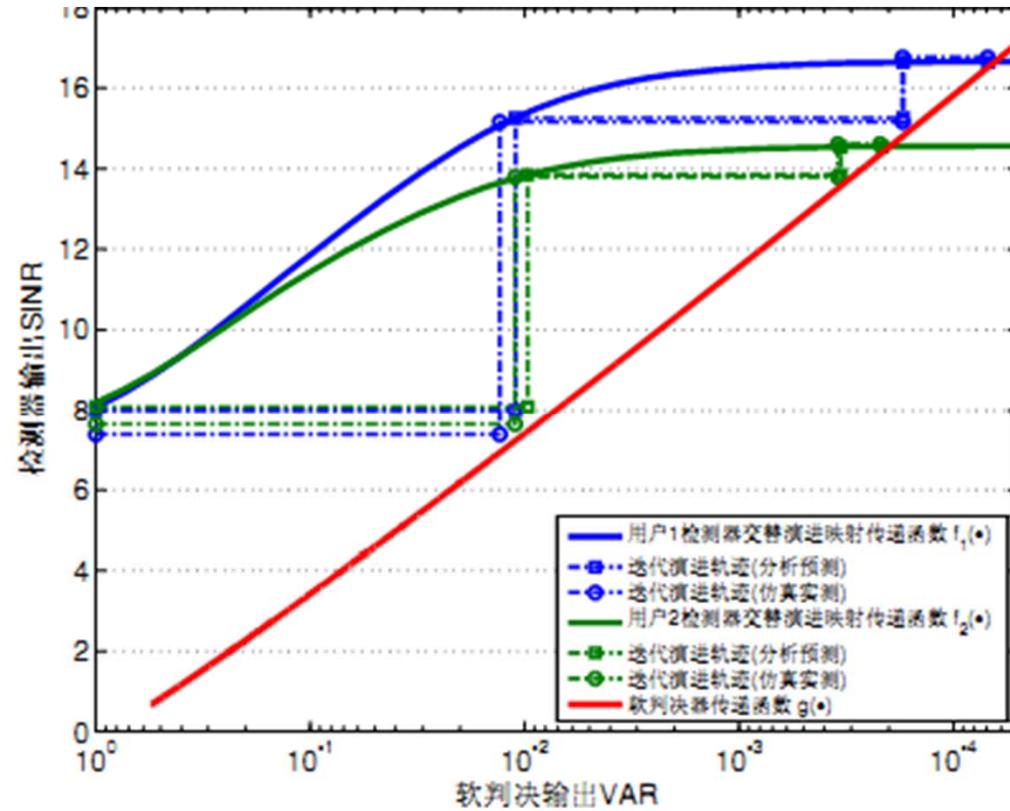


# Self-explanatoriness

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- **Figures should stand-alone** : You can understand the meaning of the picture by only looking at the picture, legend and title, and grasp the information reflected in the picture and how the experiment is carried out in the picture.
  - **Should be self-explanatory** :
    - Key parameters of the experiment
    - Supplementary description of the results, such as experimental conditions.
    - The key information (expressed by the result illustrated)
-

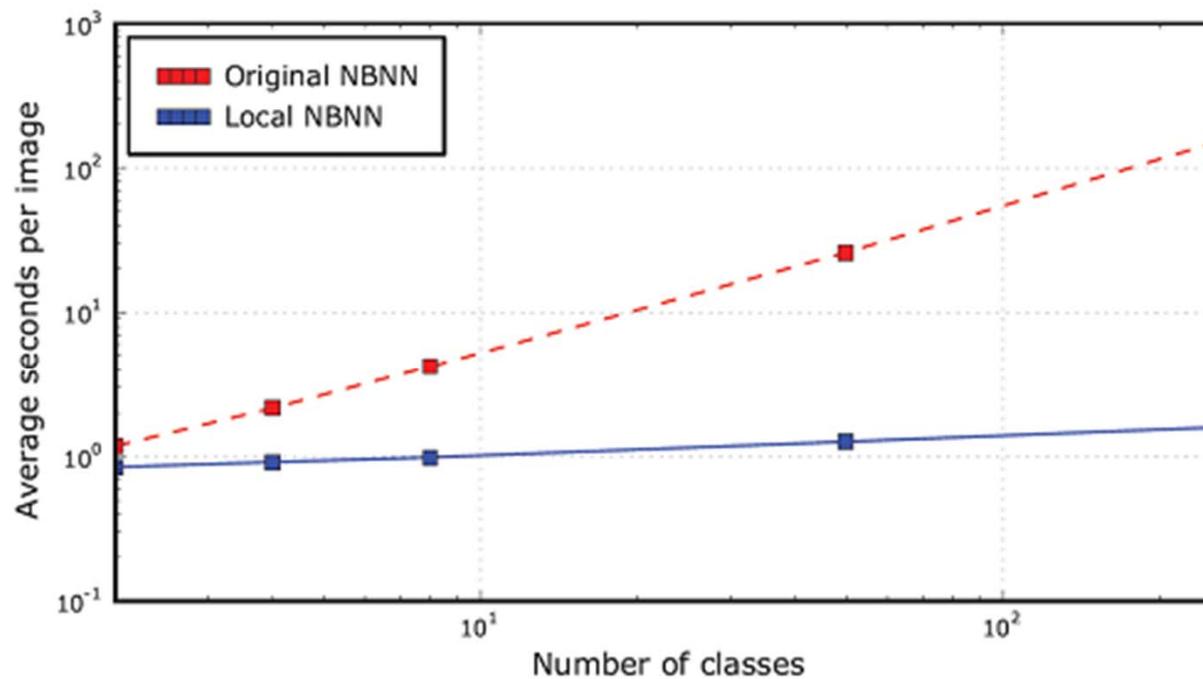
# Self-explanatoriness



Map of alternate evolution of multi-user iterative processes

# curves are consistent with the legend

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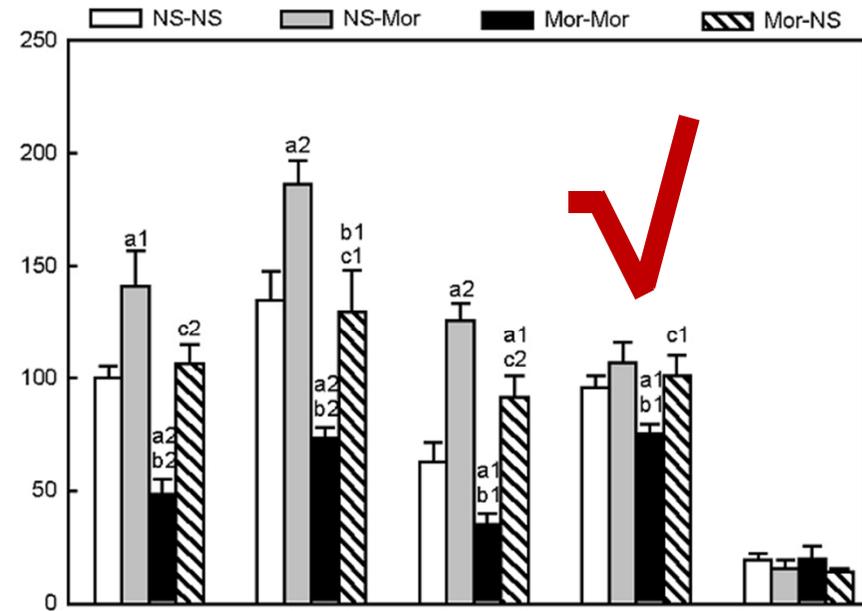
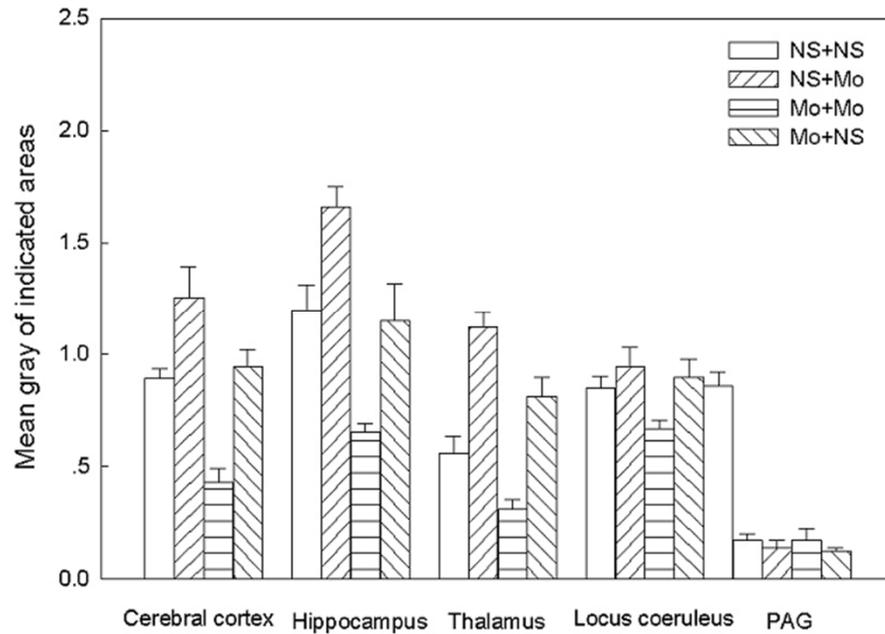


As the number of classes in the image increases, NBNN and local NBNN need time comparison graph

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# Concise and Clear

Patterns are not easily distinguishable



# Use auxiliary markers

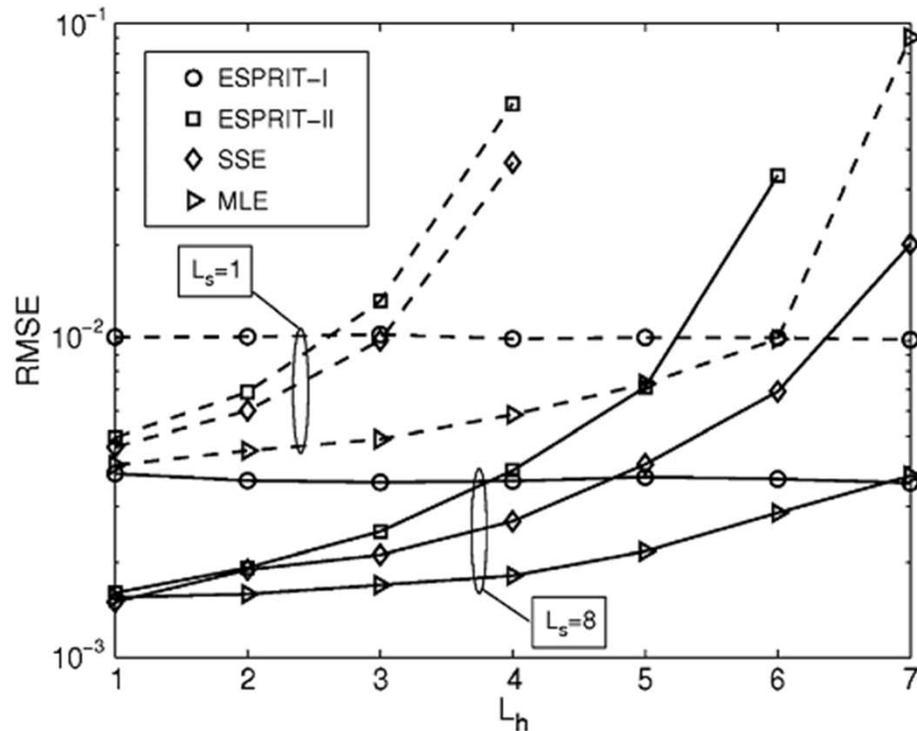


Fig. 6. The CFO estimation RMSE performance of different approaches versus  $L_h$  ( $\text{SNR} = 20 \text{ dB}$ ,  $M = 8$ ). The dashed and solid curves correspond to the performance with  $L_s = 1$  and  $L_s = 8$ , respectively.

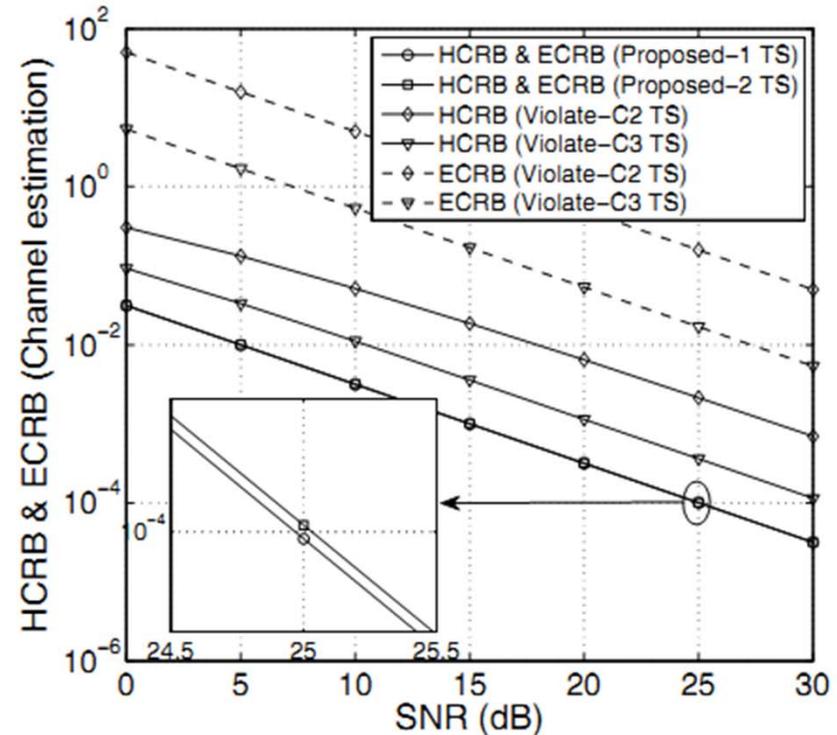


Fig. 7. HCRB and ECRB versus SNR for the estimation of  $\mathbf{h}$  for the TSs given in Table II.

# Those Things for a Good Paper

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- A concise and attractive title
  - A neat abstract
  - An effective introduction
  - A detailed Main Body so that other researchers could repeat your study
  - Precise Results
  - A relevant and interesting Conclusion
-

# Conclusion

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- ❑ Conclusions are often the most difficult part to write, and many writers feel they have nothing left to say after having written the paper. However, you need to keep in mind that **most readers read the abstract and conclusion first.**
- ❑ A conclusion is where you **summarize the paper's findings and generalize their importance, discuss ambiguous data, and recommend further research.**
- ❑ An effective conclusion should provide closure for a paper, let the reader satisfy with **the concepts which have been fully explained.**

# How to Writing an Effective Conclusion

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1. Be sure **to read the journal's guidelines** regarding Conclusions. Always keep in mind that different types of scientific papers will require different types of conclusions. For example, some journals require **the Conclusions to be part of the Discussion** and others, some take it as **a separate section**.

2. Begin with **a clear statement of the principal findings**. Authors commonly make the mistake of hiding this message deep within the Conclusions.

# How to Writing an Effective Conclusion

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3. Start with a statement that conveys enough information to cause the reader to carry on reading. The next few sentences should elaborate, if necessary, on the opening statement.

4. State your conclusions clearly and concisely. Be brief and stick to the point. Explain why your study is important to the reader. You should instill in the reader a sense of relevance.

5. Prove to the reader and the scientific community, that your findings are worthy of note. This means setting your paper in the context of previous work. The implications of your findings should be discussed within a realistic framework.

# How to Writing an Effective Conclusion

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6. Strive for **accuracy** and **originality** in your conclusion. If your hypothesis is similar to previous papers, you must establish why your study and your results are original.

7. Conclude with **how your testing supports or disproves your hypothesis**. By the time you reach the end of your conclusion, there should be no question in the reader's mind as to the validity of your claims.

# How to Writing an Effective Conclusion

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8. **Do not rewrite the abstract.** Statements with “investigated” or “studied” are not conclusions.
9. **Do not** introduce **new arguments, evidence, new ideas, or information unrelated** to the topic.
10. **Do not** apologize for doing a poor job of presenting the material.
11. **Do not** include evidence (quotations, statistics, etc.) that should be **in the main body of the paper.**

# Those Things for a Good Paper

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- ❑ A concise and attractive title
  - ❑ A neat abstract
  - ❑ An effective introduction
  - ❑ A detailed Main Body so that other researchers could repeat your study
  - ❑ Precise Results
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-